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ART. I.—COAGULATION OF THE BLOOD FIFTEEN HOURS AFTER DEATH.

BY THE EDITOR.

From a late number of the Bulletin of the "Proceedings of the American Philosophical Society," (No. 12, for May, June and July, 18mo. pp. 216,) we extract the following notice.

"Dr. Dunglison gave the particulars of a case in which blood that flowed, on dissection, from the arteries of the brain, coagulated fifteen hours after the death of the individual.

The patient died after a severe agony, and after an illness of some duration, for which mercury had been administered so as to affect the system freely. On opening the head the arteries of the brain were found turgid with blood, and on removing the brain the blood flowed from them and coagulated.

Dr. Dunglison made some remarks on the singularity of this phenomenon, and its relations to physiology and medical jurisprudence, and stated that it completely overthrew the views of those who believe that the blood is either possessed of a vital influence or receives some influence from the living vessels that contain it, which maintains its fluidity, and that so soon as it is removed from these influences it coagulates or dies. In this case the blood remained fluid, and coagulation took place fifteen hours after the total cessation of respiration and circulation, and after the blood had become cold; circumstances showing that the phenomenon is wholly physical in its nature."

Of this case we had not an opportunity of seeing any thing until after death; nor was an accurate history of it attainable. The patient had been delivered about a month previously, and had suffered under symptoms, as it was believed, of peritonitis, for which she was bled generally and locally, and had taken small doses of calomel, which produced severe salivation with considerable ulceration of the gums. Two or three days before her dissolution she was affected with diarrhœa, with heat and dryness of skin, quick and feeble pulse, and considerable stupor, passing her urine and fæces involuntarily. Under these symptoms she gradually sank.

It was especially in consequence of a very offensive discharge from one of the ears, that we suggested the propriety of examining the head with the view of discovering whether the patient had died of cerebral otirrhœa, when the phenomena above described were noticed, but there was no evidence of encephalic inflammation originating in the disease of the ear.

Although the fact, that blood may remain fluid in the vessels for a considerable time after death, and coagulate when removed from them, has been noticed before,¹ it does not appear to have given rise to any physiological deductions of moment: yet it is replete with interest to the physiological inquirer.

The circumstance, as respects the veins, was noticed in this city during the yellow fever of 1820, and has been recorded by Professor Jackson, of the University of Pennsylvania. He observes, "The veins of the omentum, mesentery, and, in fact, the whole system of the vena portæ, were always distended with fluid blood. It was at first supposed, that the blood, being thus fluid, was in the dissolved state so often mentioned by writers. But Dr. Hewson, wishing to make some experiments, collected portions of it in cups. In the course of 10 or 15 minutes it was firmly coagulated, and this was found in subsequent observations invariably to occur."²

It is interesting to remark, that in all these cases, we believe, as well as in the one which we observed, mercury had been largely administered, and it may be a topic for farther investigation, whether this peculiarity be in any manner connected with the free use of that or other agents.

ART. II.—A LECTURE ON MONSTROSITIES,

Delivered at the Middlesex Hospital School of Medicine, Feb. 1840.

BY JOHN NORTH, ESQ.

*Lecturer on Midwifery, and the Diseases of Women and Children.*³

GENTLEMEN:—In compliance with my promise and your wish, I proceed to give you in the present lecture a brief, yet, I trust, not an uninteresting sketch of the information that we have derived on the subject of monstrosities, within the last few years, from the labours of the French and German writers, especially of Meckel, Soemmering, Breschet, Serres, and, above all, Geoffroy St. Hilaire. The researches of these distinguished writers have filled up a great blank in medical science. Before their time almost every example of monstrous formation was attributed, not merely by the public, but also by the profession, to a whimsical deviation of nature from her accustomed laws. Such continued to be the prevailing doctrine until the beginning of the 18th century, when better founded and more philosophic views began to be established, and were gradually carried to their present comparative state of perfection, by the talents and labours of the authors whom I have mentioned. I refer particularly to the work of St. Hilaire, entitled "*Histoire Générale et Particulière des Anomalies de l'Organisation chez l'Homme et les Animaux.*"

The phenomena of monstrosities have at all times excited the attention of philosophers. In former days every case of monstrous formation was attributed to the influence of demons, or to the anger of the Deity; and, hence, by the Greek and Roman laws, monsters were condemned to die. Such opinions could, of course, have been entertained only in an age of gross superstition and credulity.

¹ See J. Davy's *Researches, Physiological and Anatomical*, vol. 2. p. 190, Lond. 1839, now in course of republication in the Library.

² *Philadelphia Journal of the Medical and Physical Science*, vol. 1. p. 22. 1821.

³ *London Lancet*, March 7, 1840, p. 857.

Every example of *monstrosity*, if the term be correctly applied, is congenital. In fact, all those metamorphoses and great physiological phenomena which result in the formation, and in the first evolution—of the different organs, belong to the first periods of infra-uterine life. In the last periods of pregnancy, the fœtus is subject to very slight changes, and suffers but very few deviations from the specific type. It is necessary to bear this in mind, in order to understand completely many of the observations I shall hereafter make.

As I am anxious to compress into a brief space the large mass of facts which have been communicated to us on this subject, I shall pass over one branch of it, on which many hundreds of pages have been written, viz. the *classification* of monsters. For many ages thousands upon thousands of cases of monstrosity were collected, but in order to understand their origin, it was absolutely necessary to know the true laws of the original developement of the various organs of the human subject. It was also necessary that comparative anatomy should be studied in the modern and philosophic manner which has led to such very interesting and curious results as those that we now possess. The establishment of the theory of the frequent arrest and retardation of organic developement has led to sound views and the great progress that has now been made in the subject of monsters, the phenomena having been formerly almost universally attributed to some accidental deviation from the ordinary track of nature. An examination, however, of the original developement shows us that the greater number of monsters are beings whose growth has been arrested, and in whom the organs of the embryo have been retained until birth, and are associated with the fœtal organs.

This arrest of developement is very instructive as to those cases of monstrosity in which there is a deficiency of organs. Secondly, other phenomena arise from excess of developement, in which the organs are larger or more numerous than usual. Thirdly, there are anomalies, which arise neither from deficiency nor excess, but in which the primitive process seems simply perverted, thus changing the direction and situation of different organs.

The laws governing the production of these anomalies must be derived from the general laws or principles of organisation; and the first and most important law is that of the unity of organic composition. The organs of animals are composed of precisely the same materials, are always essentially the same, and are combined according to definite rules. By this law of unity of type in the formation of animals, as shown by Meckel, by Serres, and especially by Geoffroy St. Hilaire, we are enabled to explain the resemblance that is so frequently traced between the *anomalous* formation in one race of animals, and the *natural* form in others. Nothing is more common than to find that the anomalous structure of monstrous formations, in man for example, represents accurately and definitely the natural structure in other animals. According to this law, every animal in whom there has been an arrest of developement, ought to realise, in some of its organs, the condition that is met with among the inferior classes; and such is the case. Again, when there is an excess of developement, then we find the same resemblance between the animals which are the subjects of it, and some beings that are higher in the scale. This is occasionally found, but it is not so common as are examples of the human family resembling lower races, in consequence of deficiency. In the two lectures which I shall give on this subject, I shall refer to many examples illustrative of this law, but a few of them may now be noticed.

Many of the monstrous formations in man, consequent upon an arrest of developement, bear a marked resemblance to different mammalia. For example, the persistence of the tail, the characteristic of mammalia. In the early stages of the human embryo there is a natural prolongation of the os coccygis, which is neither more nor less than a tail, and which is usually removed in the process of developement. Here is a specimen, [exhibiting it] in which this is admirably shown. In the process of embryonic life the tail ought to

be removed; but if any circumstance takes place in the early period of utero-gestation, so as to arrest or retard the developement of the embryo, the tail may remain. Here is a six months' fœtus [presenting it] exhibiting a permanent tail. Again; we not uncommonly find, as a specimen of monstrosity in the human subject, a cloaca, from which both the urine and the fœces are expelled; and such is the natural structure in many of the inferior animals. Monstrosity from a fissure in the lips, in consequence of an arrest of developement, is by no means uncommon in man. Here is a specimen. The lips are originally formed from the angles to the centre, and join at the median line; but if an arrest of developement take place, if the lips do not pass to the median line, there will be a chasm. There may be one or two fissures, or the chasm may be of larger or smaller compass, constituting what is improperly termed *hare-lip*. It arises from an arrest of developement, and it represents the natural structure of many of the inferior animals. Again; the uterus may be double (of which there is a specimen before you) in the human subject, but this also is the natural structure of many animals. There may be an imperfect state of the convolutions of the brain, representing, again, the structure of inferior animals. We often meet in the human subject with a bifurcation of the glans penis, or the clitoris; two vaginæ are not very uncommon. These are monstrosities arising from an arrest of developement, and they represent the natural structure of many animals. Imperforation of the vulva is not unfrequent; the sexual organs are sometimes deficient, and occasionally there is an imperfect developement of the eyes.

In another genus of monsters the limbs are deficient, the hands and feet appearing to exist alone, and to be inserted immediately into the trunk of the body, resembling seals and cetacea. An example of this existed in a Miss Biffin, who was exhibited some years ago in London and other parts of the kingdom. In her case there was an arrest of developement, but in many of the cetacea this is the natural formation, thus furnishing another illustration of the general law. Here [showing it] is an example of monstrosity exactly resembling Miss Biffin. The hands and feet are closely united, you see, to the body. No limbs are developed. Sometimes there is a deficiency in the arch of the palate, which is common in fish; frequently the diaphragm is imperfectly developed, as in oviparous animals; at other times we find as a specimen of monstrosity a communication between the different cavities of the heart, such as exists in reptiles. The absence of the brain and spinal marrow is not uncommon in the human subject. Very frequently the cerebral system is composed only of ganglia and nervous filaments, as in the case of many of the articulated animals.

The cases are much more rare in which inferior animals resemble the higher from an excess of developement. Geoffroy St. Hilaire mentions cases in the carnivorous tribe in which there was an excess of developement, and the tail had entirely disappeared. He has seen other cases in which the spinal marrow ascended as high in the vertebral canal as in man. All this is, physiologically, extremely curious.

The fact of the natural formation of the inferior tribes existing in monstrosity in man, clearly proves—and this proof has only been afforded to us in recent times—that monstrosity is not, as was once believed, a disorder arising from the blind freaks of nature, but that it is governed by constant and precise laws, and is capable of being submitted to a regular and scientific classification, and this classification has been effected in a very elaborate manner by Geoffroy St. Hilaire.

Another law, a law very closely connected indeed with monstrosity, and one of the fundamental principles of embryology, is this, that no organs originally pre-exist in the ovum. All the organs are formed at various parts of the growth of the ovum. At first each organ is extremely minute, extremely simple; and each afterwards passes through a series of changes in the process of developement. When the different organs have arrived at their permanent and natural state, some of them have passed through a greater

number of changes than others, and have deviated from their original conformation more than others. In some, the changes are few and unimportant; in others, they are numerous and important. This is the normal, but not the invariable law of developement, for an organ may stop beneath the ordinary degree of developement, or be entirely abortive; or, on the contrary, it may exceed it, and thus arise the two great classes of monsters—one from arrest of developement, the other from its excess.

Now, of course, the admission of the law of the non pre-existence of organs in the germ is fatal to the old doctrine of original monstrosity before fecundation. The ancient doctrine taught that monstrosity arose before fecundation had taken place, from some original malformation of the germ. This position is now entirely abandoned, not upon any hypothetical grounds, but, from the immense number of facts which have been collected in opposition to it. It is true that Meckel has endeavoured to revive this doctrine, but only with a view to escape from difficulties and to account for certain cases of monstrosity, which it is safer in the present state of science to confess are utterly incapable of explanation. According to the law which admits the formation and not the evolution or unfolding, as it were, of organs, monsters from arrest of developement may be considered as permanent embryos, in some respects. We see at the end of their intra-uterine life some of the organs in the simple state in which they were at first formed.

A third law is that of eccentric developement. According to the doctrine of Haller and all the physiologists of the 18th century, every vessel and every nerve, dividing more and more, proceeded from the heart and brain towards the surface; and this, by philosophers and physiologists who either preceded Haller or adopted his more mature views, was termed the law of centrifugal developement. But in consequence of the labours of Serres and Geoffroy St. Hilaire this notion is almost entirely abandoned, and the opposite doctrine, that of eccentric or centripetal developement is now generally received. Serres and Geoffroy St. Hilaire say—and there is no doubt that it is true to a great extent, though not entirely,—that the vessels and nerves are formed before the heart and nervous centres—the brain and spinal marrow. I proved to you on a former occasion, that the blood-vessels were formed before the heart: and that even the motion of the blood could be seen before the pulsation of the heart, clearly showing the correctness of the general law laid down by Serres and Geoffroy St. Hilaire, in opposition to the philosophic dogma of the organisation of parts taking place from the centre to the surface, rather than from the surface to the centre. The heart, for example, the brain, and the spinal marrow, are very frequently found wanting in cases of monstrosity; but the blood-vessels and nerves are never wholly deficient. They may be more or less deficient, thus representing the structure of inferior animals, but they are never entirely wanting. If these vessels proceeded from the heart, the spinal marrow, and the brain, and those three organs were deficient, the vessels would be deficient also; but that is not the case, proving that the elaboration, the developement, of the vessels is not necessarily dependent upon the previous formation of the heart, the brain, or the spinal marrow.

Again; Serres contends (and he is supported to a great extent by Allen Thomson, a very good authority upon the subject of embryology) that the developement of the body commences from the two lateral halves, and that each central, each single organ is originally a double one. This can only be observed in the earliest periods of the formation of the embryo. The right and left portions are at first distinct and separate, but afterwards become united. Now if, from an arrest of developement, the union of the two halves is prevented, which occasionally happens, if this primitive state of formation becomes permanent, then two lateral organs, of course, are formed. If organs lying on the median line of the body, are originally composed of two halves—and this is clearly proved to be the case,—and any thing interferes to arrest

or retard their development, then that which ought to be a single organ remains permanently two. When this occurs in the human subject, it again presents as a monstrosity in a higher, that which is the natural structure in many of the lower animals. The two original halves of an organ may be quite distinct, or partially separate, according to the period of formation at which the arrest of development took place.

Again; fissure of the lips, the palate, and the scrotum and spina bifida in man, are all specimens of arrests of development, but are similar to the natural structure of inferior animals. Serres also states that the hollow organs situated on the median line are composed of two halves as well as the solid organs. There are, at one period of development, two aortæ, two vaginæ, two uteri, &c.

All these organs are considered to pass through three successive stages in the process of development. In the first stage, they are double, and the two portions are quite separate; in the second, they approach and unite upon the median line, the two inner walls being applied against each other; in the third, there is a development of the inner walls, by which the two halves become gradually approximated, and that which originally constituted two separate halves is now reduced by a process of nature into one single organ. If by arrest of development the second stage of formation remains permanent, the inner walls of the primitive organs, which form naturally a temporary septum, are not removed, and the organ is divided by a longitudinal partition. Here [showing the preparation] is a very rare specimen of a longitudinal division of the vagina and uterus, extending from the os externum to the fundus of the uterus, dividing both organs into two. The arrest of development must have occurred here at a very early period; and here again we see realised in the monstrous formation of man the natural structure of different animals.

There is another fact dependent upon the law of development towards the centre, and that is, the greater constancy of those organs which are of early formation than those of later development. Any cause at any period of pregnancy disturbing the process of growth will very little, if at all, interfere with the development and growth of organs nearly or perfectly formed; but it may have considerable influence upon organs as yet imperfectly developed. Thus, it has been found that the umbilicus and small intestines are by far the most constant parts in monsters; and that for the clearest reason, because they are among the parts first formed, and as such they are exposed to fewer causes of arrest or disturbance of development than those which are afterwards formed, and which are exposed, to lapse of time and various circumstances interfering with their elaboration and growth. Many examples of the kind might be adduced. Still it is impossible for any one who reads the works of Serres and Geoffroy St. Hilaire with a determination to arrive at the truth, if he can, to go to the full extent of the position which those philosophers have laid down with respect to the laws of centripetal development.

The causes of the arrest of development and of the excess of organisation seem to be at present beyond our reach. Arrest of development teaches us much as to the origin of monsters with deficient organs; but scarcely any thing as to cases of monstrosity from excess of parts. And the attempts to explain these rarer anomalies are as yet by no means satisfactory. There is another law by which the production of some anomalies has been explained, and that is, the law of compensation in different organs. Excess of nutrition in one organ is proved to involve the total or partial atrophy of another, and *vice versa*. If one organ be preternaturally large, another is preternaturally small; or if one be preternaturally small, we find, by the same law of compensation, that another is preternaturally large; thus establishing a very curious law. Let us not neglect facts because they do not appear practical; they are always important, and we know not to what useful results they may ultimately lead. Many applications of this law of compensation may be made to the subject of monstrosities. Thus, for example, we occasionally

see individuals with more fingers on one hand, and more toes on one foot, than natural; but, in the great majority of such specimens, if there be six fingers on one hand, there are only four on the other; or if there be six toes on one foot, there are only four on the other. The fact which is thus proved is explained by the term, law of compensation.

Another law which is very curious is that of the similar position of parts, or the affinity of similar parts for each other, called by Geoffroy St. Hilaire, "*Affinité de soi pour soi.*"

If two or more organs perfectly resemble each other, they seem to have a strong tendency to unite and approach. Thus, physiologists have at all times been struck with the phenomena of double monstrosities; for it has invariably been observed—although until the labours of Serres and others of recent times it was never capable of explanation,—that in cases of double monstrosity parts of a similar kind were invariably attached to each other. This is constant and common to all monsters, and influences all the facts of double monstrosity. Thus, side is united to side, face to face, back to back; each part in the one corresponding precisely with the same organ in the other. Every vessel, every nerve, every muscle situated in the line of union of the monstrous body joins itself to the same vessel, the same nerve, the same muscle in the other half. This is a very curious law of nature, and is precisely analogous to the two halves of an organ originally separated uniting in their further developement. There are before us several specimens of double monsters, tables, and plates, illustrating the truth of this position. And here, in the "*Recherches D'Anatomie Transcendante,*" by Serres, you see clearly illustrated, in the different plates exhibiting the anatomy of the double monster Ritta-Christina, this law of "*Affinité de soi pour soi.*" Each similar bone is attached to a similar bone on the opposite side. We shall never find an artery attached to another artery of a different nature. Knowing this fact, we can at once distinguish between true cases of monstrosity and those which are alleged to have been met with, but which really never occurred; we can distinguish between the fabulous monsters of by-gone days, and those which really existed. Many cases of monstrosity recorded in former times were mere fables. In many such instances one head is represented as growing from the upper, the other from the inferior part of the body; the back of one was said to be attached to the belly of the other. No such cases, I believe, were ever seen. The law regarding the formation of double monstrosities is universal and invariable, so far as we can judge from the specimens before us, and all those I have seen in English or foreign museums.

Passing over a great many intermediate observations made by St. Hilaire, I come to something more practical, and will make a few observations on certain anomalies from a diminution of the colouring matter.

It is well known that the skin derives its colour from a particular principle, named pigmentum. This pigmentum may be less coloured or less abundant than usual; it may be wanting entirely, or it may be too deeply coloured. Again, there may be simple alteration of colour.

I will first give a brief sketch of that state which arises from a diminution of colour. Individuals whose skin is but slightly or not at all coloured, have long been known by the name of *Albinos*. They were at first supposed to be a particular race, but albinism is now known to be the result of some individual and accidental modification. The skin appears to be white in consequence of the absence of the pigmentum; the hair is also white; the iris is deprived of its colour, and it is usually red; the pupil is of a fiery red, and hence such individuals have a peculiar physiognomy. A family of this kind may often be seen walking up and down Oxford street. *Albinos* are frequently blind for some time after birth, in consequence of the permanent presence of the *membrana pupillaris*, which ought to disappear at a certain time of fetal life. The condition of the iris does not enable them to bear a strong light; it is not opaque as it ordinarily is, but remains transparent, from want of colouring matter, and thus allows all the rays of light to

pass through to the globe of the eye, rendering the organ of vision incapable of bearing them. Albinos are thus like many animals who see best in the dark. Perfect albinism is a common occurrence. Albinos are generally of a delicate constitution; their limbs are longer than natural, their head and their neck larger, and their physiognomy is dull and disagreeable. Usually the males are barren, but not the females. It is to a state of partial albinism that we must refer individuals partly white and partly black among the negro race. Thus, two blacks may have a white child; or the offspring of an Albino and a negro may be partially black. If we were not aware of this fact, adultery might be suspected—very unjustly. I remember a partial case of albinism in the family of a patient of mine in London. The females, and the females alone of this family, had had for many generations perfectly black hair, excepting a band of hair about two inches in breadth, in front, which was as white as snow. This was a curious case of the want of developement of the colouring matter. Their heads were shaved, and various experiments were tried, but all in vain; it appeared like a band of white ribbon, and I endeavoured, though without success, to persuade the two lasses whom I saw that it added to their beauty.

Albinos are seen in every climate, in every country; they are rare, however, in cold regions, but are common in warm, and in the tropics; and hence arose the general opinion which still prevails, that they are a distinct race of people. It is curious that they should exist particularly in the tropics; it shows that cases of albinism are much more frequent among black than white people.

As to the nature and causes of this condition, I will dismiss them briefly; but it is worth while to observe that St. Hilaire has proved that long confinement and want of exercise will gradually produce a change of colour, especially if at the same time the food be scanty and bad. Thus the opinion of Blumenbach is to a certain extent supported, viz. that albinism is occasionally the result of disease. This is sometimes true, but it is much oftener true that it arises from an arrest of developement. The pigmentum of the skin is not present in the fœtus until an advanced period of pregnancy, and the offspring of blacks may sometimes remain as white as the children of the European race. It is easy to conceive that the developement of the skin may be arrested before the pigment has been deposited in the cutaneous tissue so as to impart to it its natural colour. Hence, the natural colour of the skin, the hair, the iris, and the choroid coat of the eye, may remain deficient simply from an arrest of developement, and without disease.

As a proof that this anomaly may be referred to an arrest of developement, I may mention that albinism is not the only fœtal condition which remains permanent. The fœtus during the second half of its intra-uterine life is covered with a fine downy appearance, observable with the naked eye or with a microscope. In the process of developement this downy appearance is removed, but in almost every case of a perfect Albino it permanently remains over the whole surface of the body, showing the arrest of that developement by which the downy appearance ought to have been removed. Again, the frequent presence at birth of the membrana pupillaris is another proof of arrest of developement.

I will now make a few observations upon the anomalies arising from an excess of colouring matter, or melanosis. The presence in the skin of a deeper pigmentum than natural, constitutes, according to St. Hilaire, a species of congenital melanosis. This is not uncommon in many animals; but it is less common in man than albinism. The term *melanosis*, I may observe, is usually applied to a particular form of disease characterised by black or very dark tumours, which appear in the different tissues of the body, at various periods of life. I must not travel from my subject to touch upon one on which I have no information to offer, but I may just show you this beautiful specimen of melanosis, one of many from the collection of Mr. Kiernan, who has been long investigating the subject with his well known industry

and ability. Many *nævi materni* are nothing more than examples of congenital melanosis. Writers in general confound under the term *nævus* two states of very different characters—the one being melanosis of the skin, depending on an excess of colouring matter; the other arising from a preternatural condition of the blood-vessels of the part, the latter being technically known by the name of *aneurism by anastomosis*, an appellation given to it by John Bell. Complete melanosis may occur suddenly in the adult. Ruysch published the case of a man who at the age of 70, in consequence of some powerful moral emotion, became in one night as black as a negro. There other cases of the same kind on record, which have been classed by the older writers under the term *black jaundice*, from the person becoming not perfectly black, but of a dark and deep colour.

Nævi, depending upon an anomalous condition of the blood-vessels, are red, violet, or black; those which are red become deeper from mental emotion, heat of the skin, or any circumstance capable of producing a blush on the surface of the body. These vascular *nævi* are generally elevated above the surface, and may appear in every organ and of every form. I saw one case, shown to me by Dr. R. Lee, which covered nearly the whole body.

These vascular *nævi* increase by heat, and of course they are affected by the warmth of summer; at that season they are redder than at others, and hence the popular belief that they resemble certain fruit which has been longed for by the mother, and that they follow the laws of its growth. This is all nonsense. It is true that these *nævi* become redder when the fruit is ripe; but that is because a greater determination of blood takes place to the surface of the body during the warm weather, and thus the *nævi* become elevated and present a more turgid and red appearance than at other times.

Sometimes *nævi* disappear after birth; sometimes they give way to compression, and this is one of the means occasionally had recourse to for their removal. It is worth while, however, to know that Recamier says, that however simple the treatment of vascular *nævi* by compression may be, yet it is not safe to employ it; for although the surface may appear to be perfectly healthy, yet the amount of compression necessary for the purpose of cure is extremely likely to produce cancer. I shall in a subsequent part of the course enter upon a detailed account of the nature and treatment of *nævi*.

Congenital melanotic stains upon the surface of the skin vary greatly in situation, form, and colour, and sometimes they are covered with hair. They are often, by the public, said to resemble some animal by which the mother has been frightened during her pregnancy. But how is the evidence obtained upon which this foolish belief is founded? A woman is delivered of a child, having upon the surface of its body a dark stain, perhaps covered with hair. The attendant gossips assert that it is like a cat, a rat, or a mouse. The mother is asked if she has not been frightened by either the one or the other of those animals during her pregnancy. If she answer in the affirmative, the parties are, of course, satisfied. If she reply in the negative, she is asked by what she was frightened, or what she saw while she was with child. And you may easily imagine that such a train of inquiry must lead to the wished-for conclusion that the stain upon the child resembles something—no matter what—which the mother saw in the course of her pregnancy. During the French revolution a woman was delivered of a female child which had a dark spot upon its arm. This was converted into a very correct resemblance of the cap of liberty; and, the important fact being communicated to the government, the woman obtained a premium for having brought forth a child with a revolutionary emblem on its arm!

These *nævi* generally remain during life, unless removed by surgical means.

Thus, gentlemen, I have ventured, for once, to depart from purely practical topics, in order that I might give you a general sketch of the curious and interesting subject of monstrosities. In the next lecture I shall resume and complete the topic.

(To be concluded in our next.)

BIBLIOGRAPHICAL NOTICES.

*Bell's edition of A. Combe on the management of Infancy.*¹

The volume before us is intended rather for the *laity* than the profession; yet, proceeding from two able hygienists, it could not fail to contain much that is interesting to the latter.

Dr. Combe has been highly successful as a writer on popular medicine, if we regard the number of his first publication—on physiology—sold in Great Britain as well as in this country. His *Principles of Physiology* merited that success, and served as a prolegomenon to his *Treatise on Digestion*, which followed after; but which, in our estimation, was a far inferior work, and owed perhaps its very existence to the case of San Martin, now so well known as having furnished Dr. Beaumont with the materials for his work on the gastric juice.

The publication before us consists of various chapters. 1. Introductory explanations; 2. Extent of mortality in infancy; 3. Sources of disease in infancy; 4. Delicacy of constitution in infancy; 5. Conditions in the mother affecting the health of the child; 6. Of the constitution of the infant at birth; 7. The nursery and conditions required in it; 8. The management of the infant immediately after birth—washing and dressing; 9. Food of the infant at birth; 10. On the choice, properties and regimen of a nurse; 11. Artificial nursing and weaning; 12. Cleanliness, exercise, and sleep in early infancy; 13. Management of the infant during teething; 14. Management from the time of weaning to the end of the second year; 15. On the moral management of infancy; and a supplementary chapter by Dr. Bell, containing many facts and reflections applicable to this country.

MISCELLANEOUS NOTICES.

Treatment of poisoning with narcotic substances.—By T. T. G. Boisragon, M. D.²—Notwithstanding that the subject of poisoning by opium and other narcotics has been so ably and frequently treated of by eminent authors, and as there is, I fear, too great a tendency in medical practitioners to form an unfavourable prognosis, after having in such cases used the stomach pump and emetics without the desired effect, I am anxious, with your permission, to make a few additional observations concerning the mode of rousing

¹ *Treatise on the Physiological and Moral management of Infancy.* By Andrew Combe, M. D. Fellow of the Royal College of Physicians of Edinburgh, &c. &c. with notes and a supplementary chapter, by John Bell, M. D. Lecturer on the Institutes of Medicine, &c. 12mo. pp. 307, Philad. 1840.

² London Lancet, March 7, 1840, p. 879.

patients, upon a principle which, although it may have been occasionally, but obscurely, hinted at, has not, I conceive, been sufficiently insisted upon; and that is, continued novel or alternate impression upon the nervous system through the medium of the stomach, and the external surface generally.

This novelty of impression, as I term it, may be produced by any means which may appear to the practitioner most appropriate at the time; but the mode which I have found the most ready for producing this effect, is, alternation of impression with hot and cold water, on different parts of the surface of the body. I am well aware that Drs. Christison, Paris, and Beck, recommended cold water to be thrown over the head, chest, &c. Dr. Paris says it rouses the energy of the brain. It is also considered useful to assist the action of emetics. Dr. A. T. Thomson recommends the use of the warm bath.

Sprinkling the chest and back of the patient with cold water, while in the bath, has also an excellent effect in rousing the system; yet, even these, in a short time, the relations remaining the same, lose considerably their influence, as I have myself proved, and for this reason it is that I am anxious, lest, by attending literally to the particular remedies recommended by these excellent authors, the *principle* of alternate impression, which ought to be insisted upon, should be lost sight of. Besides, it frequently happens that a warm bath (particularly amongst the poor) cannot be procured; how, then, can we well supply its place, unless we bear in mind the principle upon which it is used? And this I apprehend to be threefold, viz. to rouse by general impression, to restore or increase animal heat, and to determine the blood to the surface, in order to assist in relieving, if possible, the congested state of the lungs and right side of the heart, produced by the state of coma which narcotics induce.¹

Hence the great use, in such cases, of causing patients, if we can, to respire frequently. Artificial respiration, where it could be effected, would, for this reason, be also valuable in extreme cases, as a proof of which I would refer my readers to some interesting experiments of Sir B. Brodie, in the "Phil. Trans. 1812," in which the circulation was maintained by artificial respiration, after the natural respiration had been suspended by the action of narcotic poisons, until their baneful influence upon the sensorium had passed off, and the sensibility and consequent natural respiration were restored.

Now, I consider that these indications may be fulfilled by the judicious use of warm and cold water. It must be evident that we fulfil all these at once by placing the extremities in warm water, and by passing a sponge, dipped in the same, over the shoulders, chest, back, &c. This should be as hot as the hand can bear it. But the first indication, which is the grand object, viz. to rouse, is mainly answered, and the effect increased, by a sudden change of impression produced by dashing the face with cold water, or passing a sponge dipped in it, over the head, chest, &c. when we find the first, or warm impression,—of which we can fairly judge, by the crying, groaning, or inspiration of the patient,—goes off; or, in other words, when the nervous system is no longer cognizant of it. Cold water, indeed, should be dashed in pretty large quantities, when done occasionally with the hand.

While we are thus endeavouring to rouse the patient by external means, we must not forget, of course, those which are commonly used internally, as weak acidulous fluids, diffusible stimuli, &c.; even these, I consider, it would be better to vary, and upon the same principle.

I think these observations may be sufficiently illustrated, without troubling you with more than the two following cases:—

CASE 1.—A poor woman administered to her child under two years of age, between the hours of 6 and 7, A. M. a teaspoonful of laudanum, instead of tincture of rhubarb, which she had been in the habit of giving it for pro-lapsus ani. Fortunately she discovered the mistake immediately before she

¹ See also "Beck's and Christison's Med. Jurisprudence."

left home to go to work, and sent immediately for the parish surgeon, who arrived about seven o'clock, and administered an emetic, which not operating as he wished, he gave it another; this dose had the effect of evacuating the stomach, but, as I afterwards learnt upon inquiry, with scarcely any trace, by smell, of the existence of opium. After leaving directions to keep the child moving, he left the house with the following observation:—"No man can save that child; and as you have got into it, so you must get out of it as well as you can."

I take particular notice of these words, without wishing to make an unkind observation concerning any practitioner, but only to show how readily patients are by some considered to be beyond relief; and, be it observed, in this case it was even after the operation of an emetic.

The friends, (for the mother was in too distracted a state of mind to render any assistance) moved the child about and shook it for two or three hours; but finding the stupor continue, they abandoned all hope, and laid it down upon its bed, as they thought, to die. The mother, whom I had formerly attended, insisted that I should be sent for, notwithstanding the resistance on the part of the friends, after the surgeon's remark; they accordingly sent for me, and I arrived not until after eleven o'clock, A. M. When I entered, I found the child, lying upon its bed, breathing stertorously, and the colour of the face changing to the livid. They told me it had been lying thus about half an hour. I caused it to be placed immediately in a warm bath, and to take alternately weak vinegar and water and strong coffee, at the same time bathing the head with cold water. All these means at first roused the child, and made it cry, but I found that their effect soon went off; the back and chest were then sprinkled with cold water which acted at first powerfully, but again the little patient relapsed into its former state of stupor; it was now taken out of the water and placed upon the knee of one of the attendants, and the sudden impression of the cold air upon the whole surface of the body at once was quite sufficient to rouse it; this effect, however, not continuing long, upon reimmersion in the warm bath it cried out, and showed clearly the efficacy of the alternate impressions. Having now satisfied myself of our power to rouse the child, I left the house with directions to continue this sort of treatment at intervals of an hour or two, *e. g.* using friction, dressing it, and giving it exercise, together with the warm bath two or three times in the day, if necessary, and continually to administer internally some of the fluids above mentioned. I saw this patient again in the afternoon; it was still drowsy, but better. I desired the friends to continue the treatment, and bring the child to me in the evening, which they did, perfectly recovered.

Observe, this practice should be continued, according to circumstances, from three to twelve hours. (See "*Christison's Medical Jurisprudence.*") The patient should be also occasionally roused, even when he may be allowed to sleep, in order to be sure of his recovery.

CASE 2.—The other case is that of a female—she might be about 50 years of age, who having suffered domestic trouble took laudanum, with the intent to commit suicide, in the following manner:—Between seven and eight o'clock in the evening she went out and bought two-pennyworth (as she said) of laudanum, which, as soon as she was out of the shop, she swallowed; she then went to another shop and bought three-pennyworth, which she made use of in the same way; she afterwards went to a third shop in the neighbourhood, and bought two-pennyworth more, but paused a few minutes before taking it, and conversed with some acquaintance whom she accidentally met, but as soon as that person left her she took the remaining dose, and returned home, keeping what she had done a secret from her family. At length, however, her son perceiving something irregular in her manner, began to converse with her about herself, and finding him importunate, confessed that she had taken opium. He then went for medical assistance, but could not procure any until ten o'clock, when two medical attendants ar-

rived, one soon after the other, and tried the stomach-pump, but did not bring any thing away that at all satisfied them as to the presence of opium.

Finding her now in a state of great stupor, two persons were employed to shake her whilst sitting in her chair, but with little effect. One of these gentlemen came to me requesting my assistance. Although I attended immediately, I did not arrive until past 11, P. M., when I suggested that her feet should be put as soon as possible into hot water, and the head, neck, and chest bathed alternately with hot and cold water, while acidulous fluids, ammonia, &c. should be given internally. When I found that these means were losing their influence, I directed that the feet should be placed in cold water: this, as might be expected, produced a sudden and powerful effect; but it should be particularly observed that the feet should not be allowed to remain above a few seconds at a time in the cold, for the reasons mentioned above, in speaking of the warm bath; they were consequently soon replaced in the bucket containing the warm water. After persevering in this plan for rather more than two hours, the patient recovered so far as to converse a little; I then directed that she should be wiped dry and rubbed, still continuing the fluids internally, and that if she was found to relapse at all, to bathe her again; but in a short time she was so far cognisant, as to insist upon being placed by the fire, and soon after went to bed. I may add, that, perhaps a little is due to the fact that some of the fluids given internally with a large spoon, having accidentally gone the wrong way, made her cough.

I trust these two cases are sufficiently illustrative of the power which we gain by such a plan of treatment; and of the utility of making it public, since in the first the practitioner had no hope, and in the second one of the medical attendants thought proper to call in further assistance. I may also mention (to show how even well-informed persons may lose sight of the principle here inculcated) that the other medical man attending this last case, exclaimed, when he saw what I was doing, "That is Christison's plan, is it not?" Besides, I would observe, that although occasional rousing by physical force or shaking may be useful, it requires great exertion on the part of the attendants, who may be difficult to procure; and it is also very fatiguing and painful to the patient, and if not continued most unremittingly, it is, I am inclined to think, apt to confirm the stupor rather than relieve it.

On the treatment of croup by large doses of tartar emetic.—By Charles Wilson, M. D. Kelso.—I have now treated in all twelve cases of croup in children with high doses of tartrate of antimony on the contra-stimulant plan, and of these, two only have died. In one of the fatal cases there had been distinct and severe croupy symptoms two days before I had any opportunity of exhibiting the medicine, yet its use was followed by a striking relief of these symptoms. Within the first seven days of treatment, the patient, a boy of four and a half years of age, took thirty-six grains of the tartrate, in doses which averaged half a grain, given at first every hour, and afterwards every two hours. The cough and respiration improved from the beginning, and at the close of the fifth day of treatment resembled what is heard in ordinary catarrh. The voice improved on the sixth day, and at the close of the eighth day of treatment it was heard distinctly, though previously little more than a feeble whisper. The medicine frequently caused vomiting, but no catharsis; the bowels, on the contrary, requiring to be regulated by enemata. On the eleventh day there was a relapse, and on the twelfth day the cough was again croupy, and the inspirations sonorous. I hesitated, and I believe improperly, in again employing the antimony; and the patient died on the fifteenth day after I had first seen him, and the seventeenth from the commencement of the disease. In the other case the patient died on the fourth day of the treatment, the antimony, however, having

¹ Border Med. Society, 1839, and British and For. Med. Rev. April, 1840.

never been properly administered, nor my directions in other respects implicitly followed. With respect to the successful cases, I may observe, that I certainly met, for the most part, with little tolerance of the remedy in as far as the stomach was concerned, vomiting having been freely produced in nearly all; but there was no troublesome catharsis, and, even in one instance where there was a tendency to diarrhœa previously to the exhibition of the antimony, this ceased on the second day of the treatment, and it became necessary to have recourse to mild laxatives. Indeed, not a single case occurred, during some part of the treatment of which it was not requisite to exhibit castor oil, infus. sennæ, or some other remedy to act upon the bowels. The treatment was generally commenced with the application of leeches to the larynx, which were followed by warm poultices, frequently renewed; and, simultaneously with the leeches, the tartar-emetic was begun in doses of one fourth or one third of a grain, generally at first every hour till a decided impression was made, and afterwards every two hours till the patient was considered in safety; care being taken that its use was not intermitted at too early a period for the certainty of the cure. The remedy was usually exhibited in a mixture with a little mucilage, prepared with warm water to ensure its solution; and occasionally, with the older children, half a minim or a minim of T. Opii was joined to each dose, which seemed to have a marked effect in ensuring tolerance of the medicine, without diminishing its sanatory effects. The largest quantity given in any of the successful cases was sixteen grains, and in this case the tolerance was complete after the first two doses. In one of the cases the antimony, at a certain period, was combined with calomel, of which upwards of a drachm was exhibited. A blister was generally applied to the top of the sternum towards the close of the treatment, in order to obviate the risk of a relapse.

I am well aware that the tart. of antimony has been employed by numberless practitioners in croup, and that Cheyne among the rest has prescribed it in considerable and frequently repeated doses; but I am not aware that any one has exhibited it in precisely the same way or with the same aims as myself, or that they have sought from it any thing beyond its ordinary well-ascertained action as an emetic. I have thus had no guide to direct me in the use of the remedy, an advantage which I probably might have possessed had my acquaintance with medical literature been more extensive; and, of course, I do not pretend that the limited experience which I have had of it has established its value beyond dispute. Having formed my diagnosis, however, with what care I could, and having treated my cases at periods when I heard of others attended with fatal consequences occurring in the vicinity, and my success in the treatment having been far greater than any I had hitherto attained with other methods, I considered myself justified in laying these details before you, and in recommending the remedy to your attention.

*On the relative frequency of Herniæ at different ages.*¹—M. Malgaigne has communicated to the Royal Academy the following details of his inquiries upon this subject. They are drawn from three series of observations, collected at the central bureau of hospitals at Paris during the close of 1835, and during the two succeeding years.

The first series embraces 410 cases which were noticed in persons who applied at the central bureau for trusses. Of this number 335 were males, and 75 were females.

The second series exhibits a total of 2,767 cases;—of which 2,203 occurred in males, and 564 in females.

The third series comprises 2,373 cases;—1,884 of which occurred in males, and 489 in females.

¹ London Medico-Chirurgical Review, April, 1840, p. 529.

From these data we may reasonably conclude that ruptures are four times as frequent in the one *sex* as in the other.

Now with respect to the influence of *age* as a predisposing cause of hernia.

Among infants under twelve months of age herniæ are more frequent than during the second year of life. During the following three years the tendency becomes strikingly less and less.

In considering the period of life between five and twelve years of age, it would seem that hernia is of more frequent occurrence during the latter than during the former half of this time. Hence we may infer that there is a *recrudescence*, at about the ninth year or so. This *recrudescence* or increase of predisposition, is still more marked during the next eight years—between thirteen and twenty. It is however to be particularly noticed that the increase bears exclusively on the male sex.

From the 20th to the 28th year, the number of herniary patients very sensibly increases, whether we take them in the mass, or distinguish them according to their sex.

Among men there is an increase of at least one fourth; and among women the increase is nearly one half. The rapid increase among males from the 13th to the 20th year of life may be attributed in part at least, to the laborious occupations in which they are engaged. The same cause operates no doubt during the next eight years on both sexes; to which is now to be added the influence of marriage, and also of pregnancy.

From the 28th to the 29th year of life there is a notable augmentation in the disposition to herniæ—stronger indeed among women than among men; and indicative of some secret influence acting on the constitution, which becomes more decided in after life.

The decennial epoch from 30 to 40 years of age may be divided into two halves, during the first of which the tendency to ruptures seems to remain nearly stationary, and during the second becomes considerably and suddenly greater—the average number for the series of the year 1836, being 29 in the first five years and 58 in the next five; and for the series of the year 1837, 26 for the first five years and 46 for the next five; thus showing an increase of nearly a double.

During the next decenniad, from the 40th to the 50th year, the average decreases;—viz. from 58 to 54 for the series of cases for 1836, and from 46 to 42 for that of the following year. But here there is a marked difference in the relative frequency of herniæ according to the sexes. In the earlier years of life, the proportion of females affected with rupture was, as we have stated above, not more than a fourth of the number of males; but about the age of forty, this proportion rises considerably, some new cause of predisposition seeming to be operative about this period of life.

If, for example, we take the two preceding periods—from 30 to 35 years, and from 35 to 40 years—the proportion was found to be thus:

54 females and 231 males,
100 females and 418 males,

—the proportion being in either case short of a *fourth*. But during the next ten years, from 40 to 50 years, the number of women affected with herniæ was 242, while that of men was 722—giving a proportion of one *third*.

From 50 to 60 years of age, the general number of herniary patients increases, and the annual average becomes again equal to, or even above, what it was from the 35th to the 40th year. Moreover, the relation between the two sexes re-appears very nearly as during this latter period of life. From this we may infer that there is an increase of herniæ among men, and a decrease among women, during the period between the 40th and 50th year.¹

¹ There is surely a mistake here; as we have been told in the preceding paragraph that there is a very marked increase of the complaint among women during the fifth decenniad of life. The decrease takes place in the next decenniad—viz. from the 50th to the 60th year, and not from the 40th to the 50th year.—(Rev.)

During the seventh decenniad—from the 60th to the 70th year—the general number decreases, and as that of women seems to remain about the same, the proportion re-becomes nearly one *third*.

During the next decenniad, the number of herniæ in men was found to have decreased by not quite a half, while in women it had fallen by at least two thirds. This difference seems to indicate, that at this epoch of life the mortality, which is evidently higher in herniary than in other persons, would be still greater from this cause in women than in men. If we follow the decrease of the herniary population, year after year, we no longer observe at this period—the eighth decenniad—as we had observed in the preceding ones, new cases of the disease to fill up the blanks caused by death. Thus, in the total of 3,140 cases comprised in the two series, we find 48 in individuals of seventy years of age, only 22 of seventy-five years, six of eighty, five of eighty-one, three of eighty-two, and one of eighty-three years.

M. *Malgaigne* has lastly endeavoured to ascertain the proportional number of herniary persons to the entire population of France. According to his inquiries, there are about two in every 41 of the inhabitants. He has also tried to determine the relative frequency of the complaint in the different provinces; but his data on this topic are still very imperfect.

Observations on diffuse inflammation.—By Henry Kennedy, M. B.—This is an elaborate essay on a very important subject. We regret that we have only room for the conclusions which Dr. Kennedy considers as warranted by the investigation entered upon by him. They are as follow:

1. That diffuse inflammation will not attack a person in perfect health.
2. That the bad state of health preceding diffuse inflammation is powerfully caused by anxiety of mind, by great bodily fatigue, by shocks of the nervous system, by improper diet, or by any thing which has a tendency to lower the general healthy tone of the system.
3. That this deranged state of the health is shown principally in a vitiated state of the bowels.
4. That when once this unhealthy condition is established, the slightest cause is capable of inducing diffuse inflammation.
5. That venous inflammation does not necessarily cause diffuse inflammation.
6. That venesection may cause diffuse inflammation, the vein, however, remaining healthy.
7. That when venous inflammation does exist, the fever which accompanies it is more likely to be of the typhoid type than when diffuse inflammation exists alone.
8. That diffuse inflammation may attack several parts of the body in rapid succession, or it may be confined to one part, as the hip, or one organ, as the lung.
9. That pus may be poured out into the joints, serous cavities, or cellular structure without any appearance of surrounding inflammation.
10. That, at the very onset of the attack, the free application of the actual cautery holds out a fair probability of checking the disease; but, when once formed, free and deep incisions are the only treatment on which any reliance can be placed.

¹ Dublin Journal, Jan. 1840, and British and For. Med. Rev. April, 1840.